Webinar: AI & Generative AI in Claims Handling

Monday, April 15th

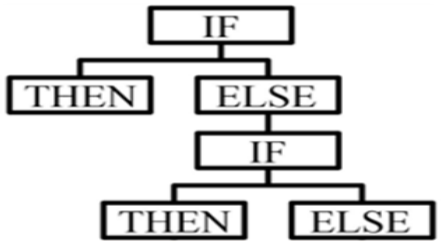
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What is artificial intelligence (AI)?

Artificial Intelligence

Techniques that enable machines to mimic human intelligence

Rules

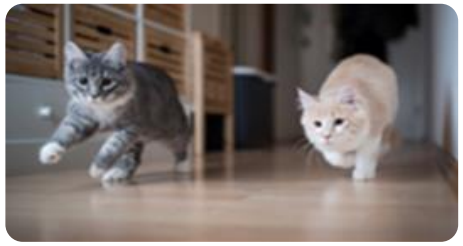




Learning from experience

Machine Learning









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Large Language Models (LLMs) / Generative AI

Text

SD can you briefly describe an incident where a yellow camry is involved in a collision while making a left turn?

Certainly. A yellow Toyota Camry was involved in a collision while attempting to make a left turn at a busy intersection. The driver of the Camry misjudged the speed of an oncoming vehicle and initiated the turn, resulting in the front of the oncoming car striking the passenger side of the Camry. Both vehicles sustained significant damage, and airbags were deployed in the Camry. Fortunately, the occupants of both cars were wearing their seatbelts and only sustained minor injuries. Law enforcement and emergency services arrived promptly at the scene to provide assistance and to conduct an investigation into the incident. Traffic was temporarily disrupted, but normal flow resumed after the vehicles were safely removed from the roadway.

Poem

Certainly, here's a shorter version of the poem:

Brief Encounter

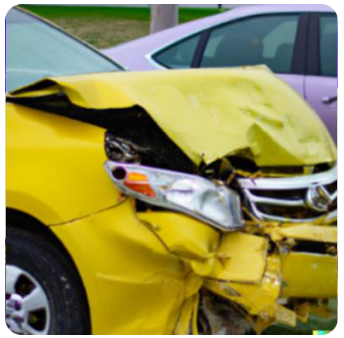
Yellow Camry, bright and bold,
Made a turn, but fate took hold.
Metal clashed, and glass did shatter,
In a moment, all did scatter.

Airbags deployed, a shielded embrace,
Drivers shocked, in this brief race.
Officer came, with pen in hand,
To understand the unplanned.

Though cars were bent, and glass was broken,
Words of caution were then spoken.
Drive with care, cherish life's dance,
For each turn holds a chance.

Images

"Yellow Toyota Camry damaged in collision"





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Evolution of text-based methods (Q: Who is the fraudster?)

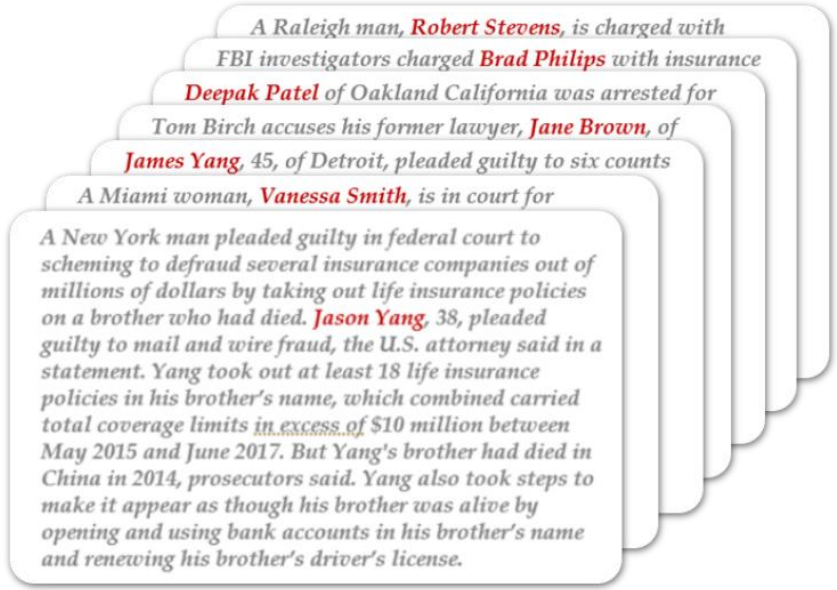
1 Rules → **2 Machine Learning** → **3 Large Language Models (LLMs)**

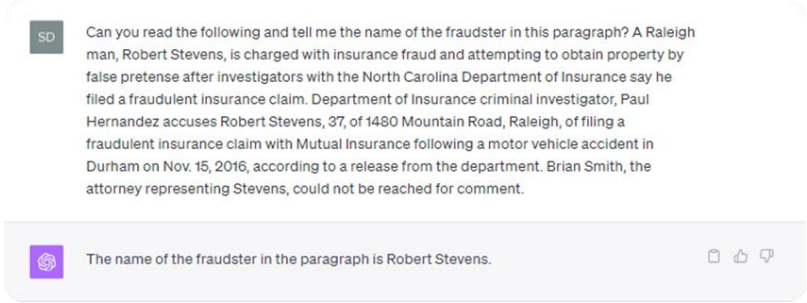
- Proximity to keywords
- Journalistic practices

- Provide many labeled examples and let the machine learn the patterns itself

- No need for further training

A Raleigh man, **Robert Stevens**, is charged with insurance fraud and attempting to obtain property by false pretense after investigators with the North Carolina Department of Insurance say he filed a fraudulent insurance claim. Department of Insurance criminal investigator, **Paul Hernandez** accuses **Robert Stevens**, 37, of 1480 Mountain Road, Raleigh, of filing a fraudulent insurance claim with Mutual Insurance following a motor vehicle accident in Durham on Nov. 15, 2016, according to a release from the department. **Brian Smith**, the attorney representing Stevens, could not be reached for comment.

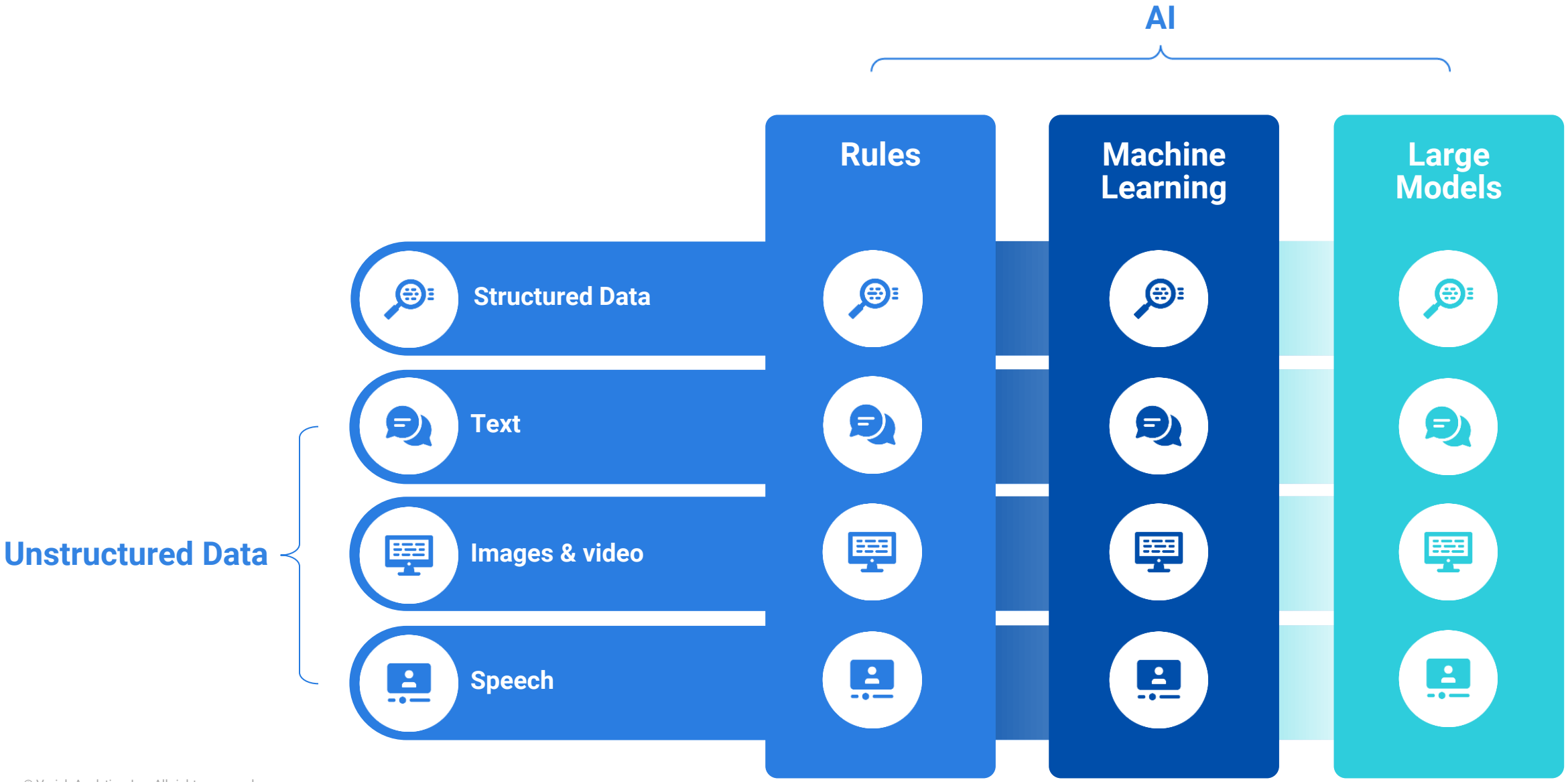




→ **Potentially faster model development**

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Another way of looking at it?



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AI uses in claims

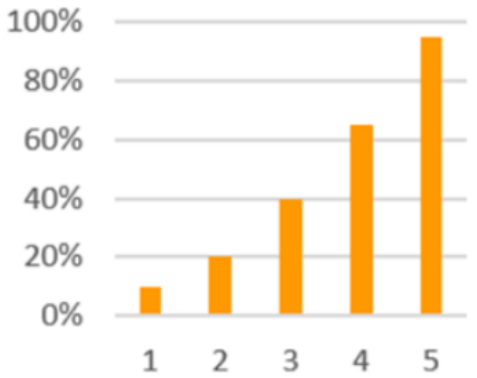
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Predictive modeling using structured data

In the beginning:

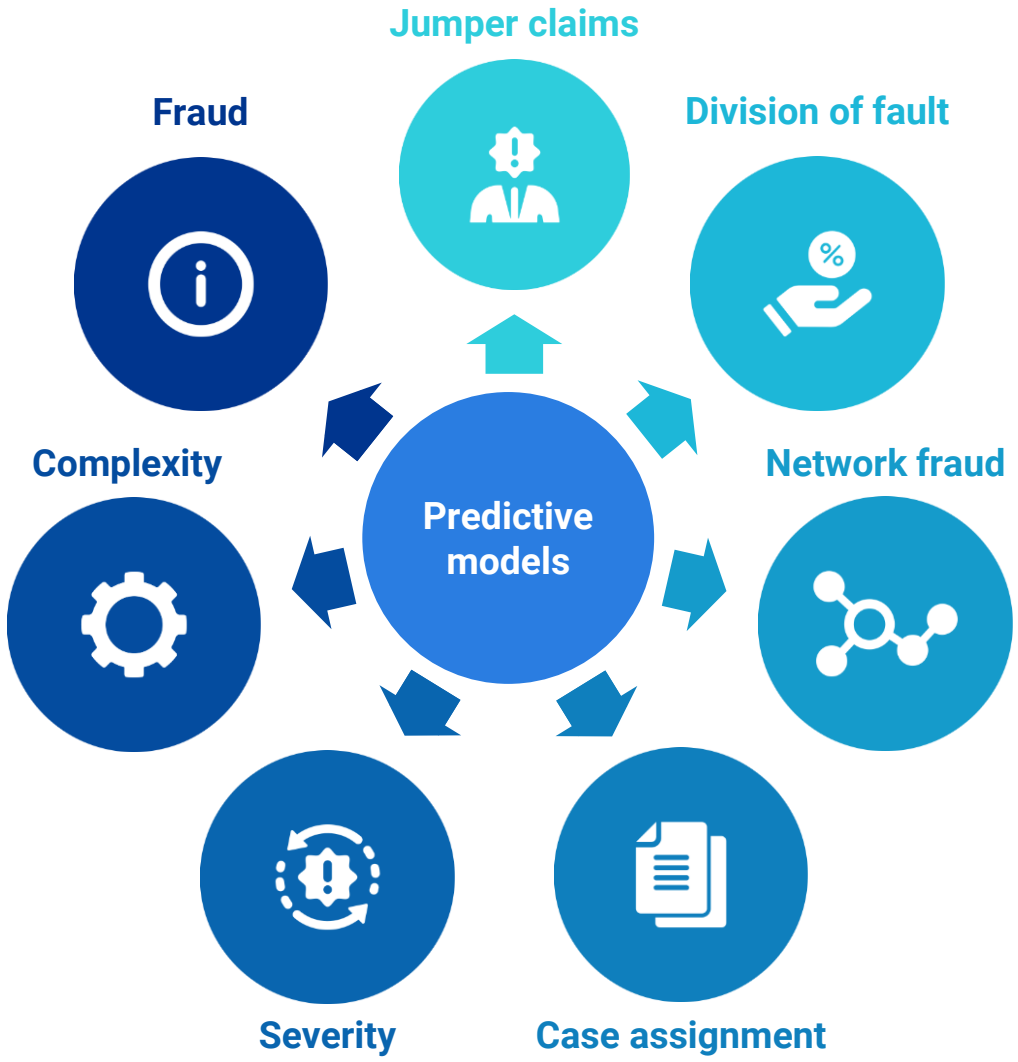
- AI used *structured data* only
- Often called *Predictive Modeling*
- Credit Scoring was one of the first commercial applications that used Machine Learning

	Claim_ID	State	Time since policy inception, months	# of claims in last 12 months	Time since last claim, months	Bankruptcy with 12 months of Claims	Previous Suspicious Claims	Performance
1	A12345	CA	12	1	5	No	Yes	Fraud
2	B34567	UT	24	0	N/A	No	No	Non-fraud
3	B56789	NV	2	0	N/A	Yes	No	Fraud
4	C12345	NV	15	1	9	No	No	Non-fraud
5	D45678	NY	72	0	N/A	No	No	Non-fraud
6	D67890	MA	45	0	22	No	No	Non-fraud
7	E23456	TX	10	2	3	No	No	Fraud



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Predictive modeling in claims



Network analytics



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Text mining/NLP in workers comp claims



Types of text processing:

- Classify
- Extract
- Summarize
- Generate
- Chat

For what purposes:

- Medical Record Processing
- Discovery
- Precedent Cases
- Case Summarization
- Statute Research

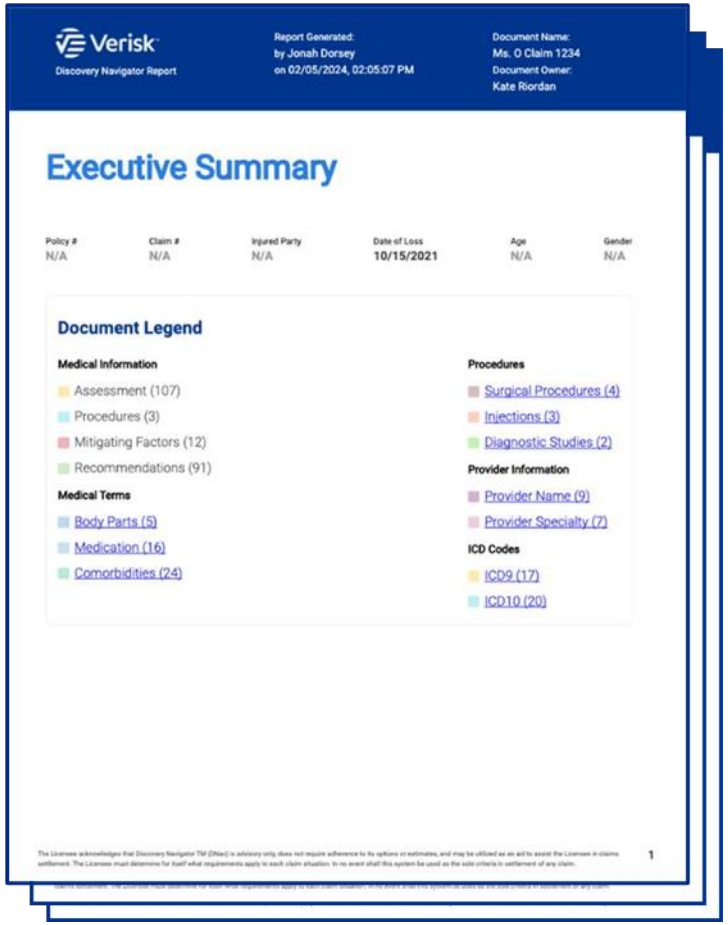
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Medical record processing

Unstructured documents



Extracted medical data



Verisk
Discovery Navigator Report

Report Generated:
by Jonah Dorsey
on 02/05/2024, 02:05:07 PM

Document Name:
Ms. O Claim 1234
Document Owner:
Kate Riordan

Executive Summary

Policy #	Claim #	Injured Party	Date of Loss	Age	Gender
N/A	N/A	N/A	10/15/2021	N/A	N/A

Document Legend

Medical Information
- Assessment (107)
- Procedures (3)
- Mitigating Factors (12)
- Recommendations (91)

Medical Terms
- Body Parts (5)
- Medication (16)
- Comorbidities (24)

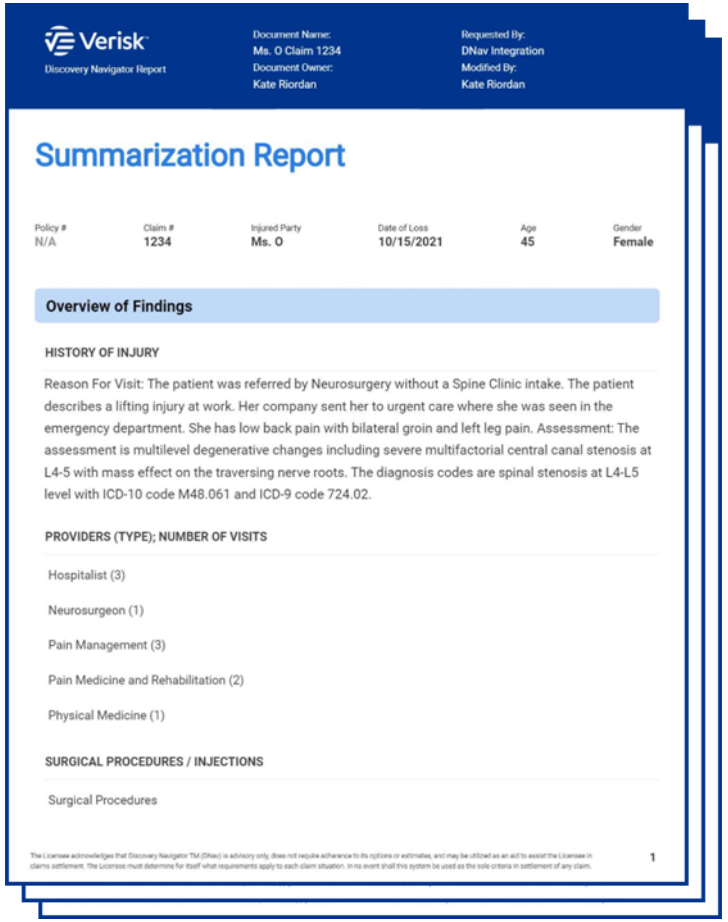
Procedures
- Surgical Procedures (4)
- Injections (3)
- Diagnostic Studies (2)

Provider Information
- Provider Name (9)
- Provider Specialty (7)

ICD Codes
- ICD9 (17)
- ICD10 (20)

1

Gen AI auto-summary



Verisk
Discovery Navigator Report

Document Name:
Ms. O Claim 1234
Document Owner:
Kate Riordan

Requested By:
DNav Integration
Modified By:
Kate Riordan

Summarization Report

Policy #	Claim #	Injured Party	Date of Loss	Age	Gender
N/A	1234	Ms. O	10/15/2021	45	Female

Overview of Findings

HISTORY OF INJURY

Reason For Visit: The patient was referred by Neurosurgery without a Spine Clinic intake. The patient describes a lifting injury at work. Her company sent her to urgent care where she was seen in the emergency department. She has low back pain with bilateral groin and left leg pain. Assessment: The assessment is multilevel degenerative changes including severe multifactorial central canal stenosis at L4-5 with mass effect on the traversing nerve roots. The diagnosis codes are spinal stenosis at L4-L5 level with ICD-10 code M48.061 and ICD-9 code 724.02.

PROVIDERS (TYPE); NUMBER OF VISITS

Hospitalist (3)

Neurosurgeon (1)

Pain Management (3)

Pain Medicine and Rehabilitation (2)

Physical Medicine (1)

SURGICAL PROCEDURES / INJECTIONS

Surgical Procedures

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Computer vision/image analytics in claims

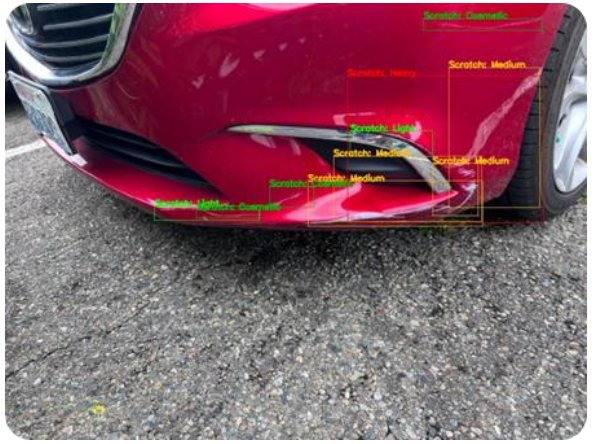
Contents



Materials



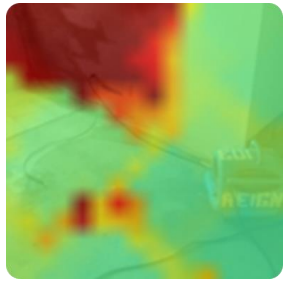
Damage



Injuries



Forensics





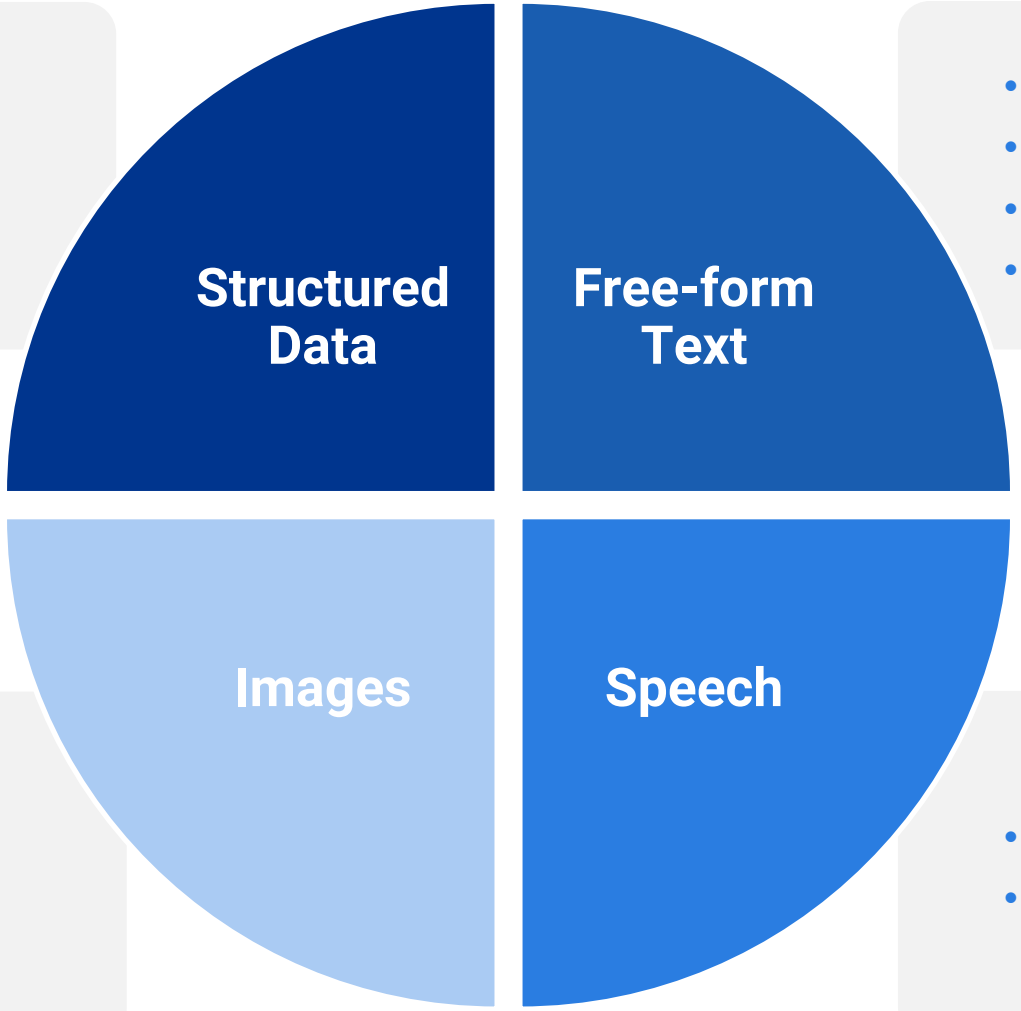
Gen AI provides new threat



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Multi-Modal Models will be even more powerful

- Policy information
- Claim information



- Claimant statements
- Police reports
- Claim notes
- State statutes

- Accident photos
- Photos of damage

- Interviews
- Calls

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AI concerns

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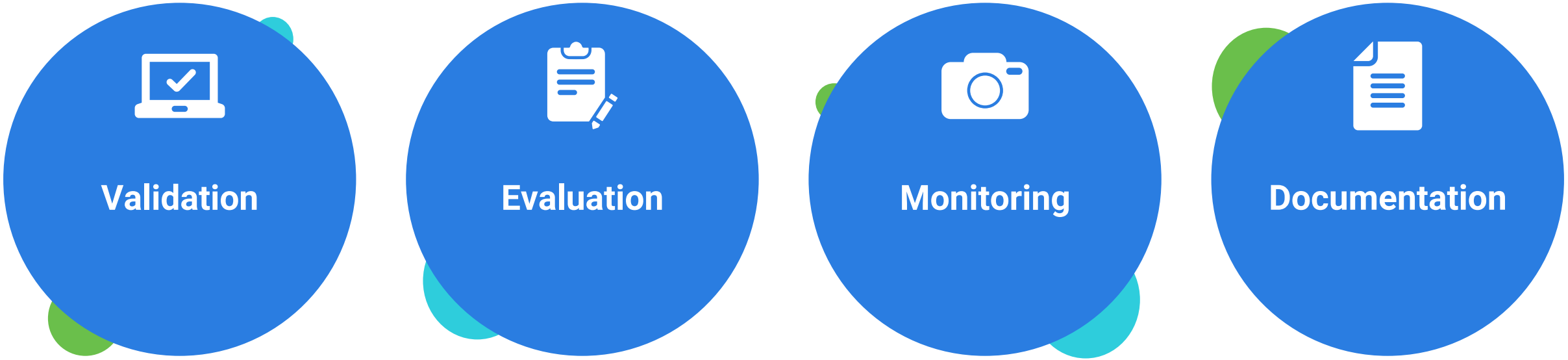
Concerns

- **Data Security**
- **Model Accuracy**
  - LLM Hallucinations/Fabrications
- **Transparency**
  - LLM Data Sources
- **Explainability**
- **Fairness**



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Housekeeping with AI



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Closing thoughts

AI evolving rapidly

- Unprecedented technological advances!!
- Will disrupt many industries as technology matures
- Potential to scale is unbelievable high
- Responsibly use AI as powerful tool to augment human work

Trust, but Verify



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Questions?

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